



1 - PRINCIPAIS CARACTERÍSTICAS DA GRUA



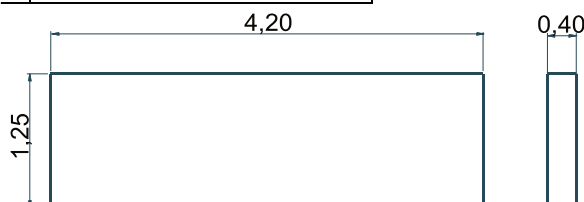
1 - MAIN CHARACTERISTICS OF THE CRANE

1.1 Dimensões, pesos e contrapesos

1.1 Dimensions, weights and counterweights

Dimensões	Dimensions	
Altura livre	Height	3 ► 48 m
Alcance da lança (gancho)	Jib reach (hook)	60-55-50-45-40-38-33-28m

Dimensões dos pesos do lastro da base	Dimensions of counter jib weights
Peso unitário 5000kg aproximadamente Dimensões em metros	Unite weight 5000kg approximately Size in metres



Contra pesos da contra-lança	Contrepoids de la contre-flèche	Fig.1
Lança de 60 m	60 m jib	8 x 2000 kg + 2x1000 kg = 18000 kg
Lança de 55 m	55 m jib	8 x 2000 kg + 2x1000 kg = 18000 kg
Lança de 50 m	50 m jib	8 x 2000 kg + 1x1000 kg = 17000 kg
Lança de 45 m	45 m jib	8 x 2000 kg = 16000 kg
Lança de 40 m	40 m jib	7 x 2000 kg + 1x1000 kg = 15000 kg
Lança de 38 m	38 m jib	6 x 2000 kg + 1x1000 kg = 13000 kg
Lança de 33 m	33 m jib	5 x 2000 kg + 1x1000 kg = 11000 kg
Lança de 28 m	28 m jib	5 x 2000 kg = 10000 kg

Dimensões dos pesos da contra lança	Dimensions of counter jib weights
Peso unitário Dimensões em metros 2000kg aproximadamente 1000kg aproximadamente	Unite weight Size in metres 2000kg approximately 1000kg approximately

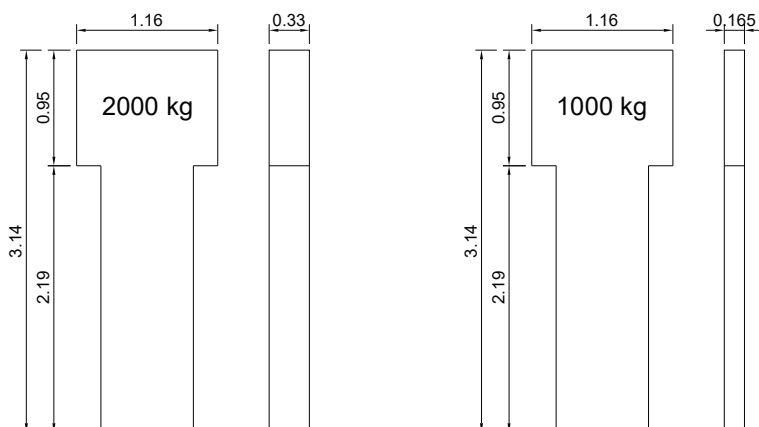
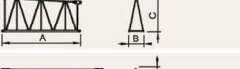
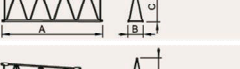
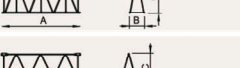
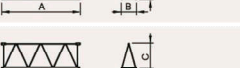
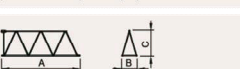
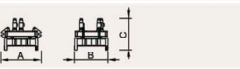
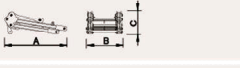
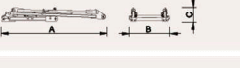
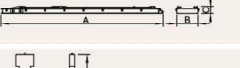
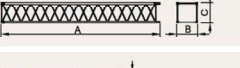
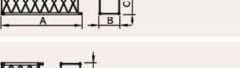
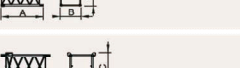
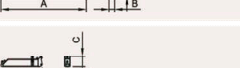


Fig.2





1 - PRINCIPAIS CARACTERÍSTICAS DA GRUA 1 - CHARACTERISTICS/ TECHNICAL SPECIFICATIONS

				 kN	Code
L68		11970	1900	2900	5050
L69		11960	1160	2260	1650
L73		5230	1160	2260	750
L70		6200	1160	1950	680
L56		5200	1160	1930	590
L76		5180	1160	1610	370
L65		5110	1160	1610	330
L66		5110	1160	1610	300
L67		5110	1160	1610	290
RS9 RI9		2505	1700	1950	4650
P8		2230	1300	820	830
CL15		3405	1320	405	600
CL4		11400	1500	500	4000
CP3		1160	165	3140	2x1000 2000
CP2		1160	330	3140	8x2000 16000
TOTAL				38090	
B1		12000	1620	1620	3450
B1		6130	1620	1620	1800
B1		3195	1620	1620	1070
B1		3195	1830	1830	1100
B1		1775	1600	1600	650
B1		6620	500	1040	2190
		3210	340	1040	2x980 1960
TOTAL				4150	

SGT 6020TL



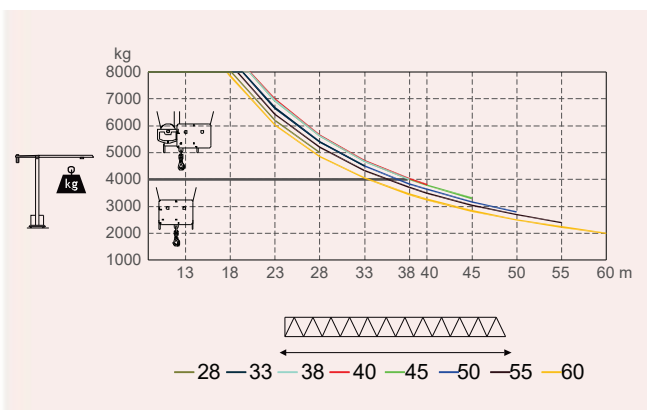
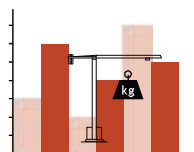


1 - CARACTERÍSTICAS / ESPECIFICAÇÕES TÉCNICAS



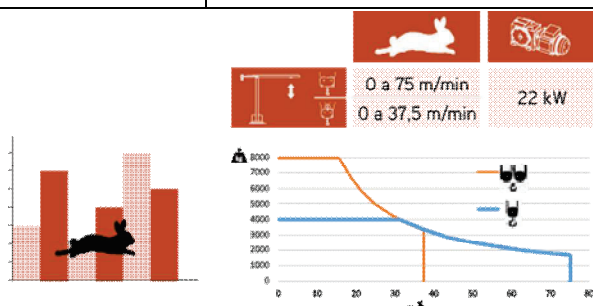
1 - CARACTÉRISTIQUES / SPÉCIFICATIONS TECHNIQUES

Capacidade de carga	Capacité de charge	
Nominal (extremo da lança)	Nominale (extrémité de la flèche)	
Lança de 28 m	28 m jib	4600 kg
Lança de 33 m	33 m jib	4100 kg
Lança de 38 m	38 m jib	4000 kg
Lança de 40 m	40 m jib	3800 kg
Lança de 45 m	45 m jib	3300 kg
Lança de 50 m	50 m jib	2800 kg
Lança de 55 m	55 m jib	2400 kg
Lança de 60 m	60 m jib	2000 kg
Máxima (Ver pagina 11) Em função da lança	Maximum (Voir page 11) Selon la flèche	8000 kg



Potências eléctricas e velocidades aproximadas de deslocamento Puissances électriques et vitesses de déplacement estimées			
		POTÊNCIA / PUISSANCE	VELOCIDADE SPEED
ELEVAÇÃO	HOIST	22 kW	0-85m / min 0-42.5m / min
DISTRIBUIÇÃO	DISTRIBUTION	5,5 kW	0-60m / min
ORIENTAÇÃO	ROTATION	Momento de Arranque 2x6,5 daN.m	Progressiva / Progressive 0-1 r.p.m.

Potência eléctrica a contratar Puissance électrique à souscrire		
Para serviço da grua	To service the crane	40 kVA
Tensão trifásica	Tri-phase tension	400 V ± 5% (50 Hz)

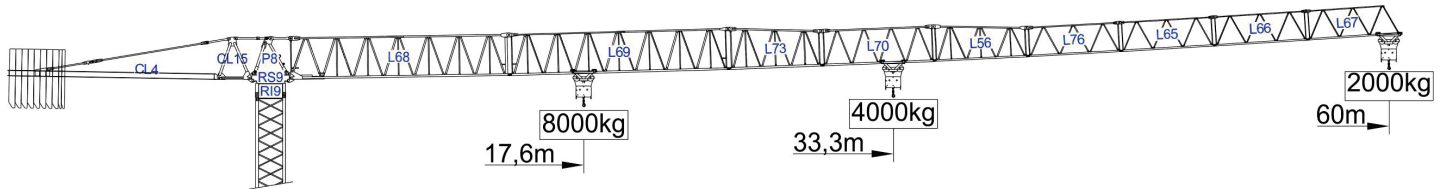


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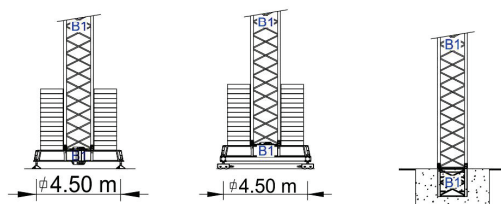
1 - CARACTERÍSTICAS / ESPECIFICAÇÕES TÉCNICAS

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1 - CHARACTERISTICS/ TECHNICAL SPECIFICATIONS



		Kg / m		m	18	23	28	33	38	40	45	50	55	60
		8000	4000											
18000kg 8x2000kg+2x1000kg	60 m L68+L69+L73+L70+L56+ L76+L65+L66+L67	17,6 m	33,3 m	4000	4000	4000	4000	4000	3450	3250	2830	2500	2230	2000
18000kg 8x2000kg+2x1000kg	55 m L68+L69+L73+L70+L56+ L76+L65+L66	18,8 m	35,4 m	4000	4000	4000	4000	3700	3490	3040	2690	2400		
17000kg 8x2000kg+1x1000kg	50 m L68+L69+L73+L70+L56+ L76+L65	19,4 m	36,7 m	4000	4000	4000	4000	3840	3630	3170	2800			
16000kg 8x2000kg	45 m L68+L69+L73+L70+L56+L76	20,1 m	38,0 m	4000	4000	4000	4000	4000	3780	3300				
15000kg 7x2000kg+1x1000kg	40 m L68+L69+L73+L70+L56	20,2 m	38,2 m	4000	4000	4000	4000	4000	3800					
13000kg 6x2000kg+1x1000kg	38 m L68+L73+L70+L56+L76+L65	20,1 m	38,0 m	4000	4000	4000	4000	4000						
11000kg 5x2000kg+1x1000kg	33 m L68+L73+L70+L56+L76	19,4 m	36,7 m	4000	4000	4000	4000							
10000kg 5x2000kg	28 m L68+L73+L70+L56	18,1 m	34,2 m	4000	4000	4000								



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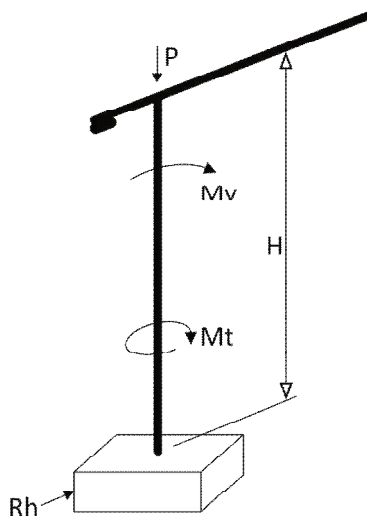
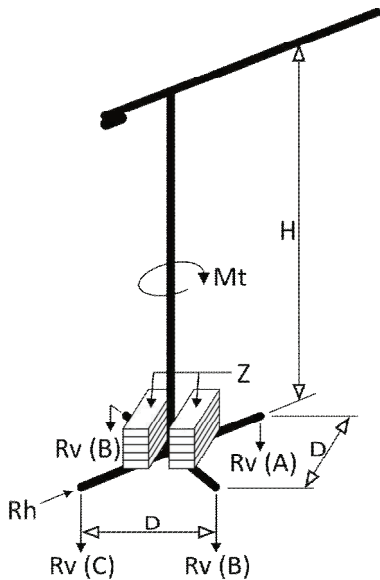
TABELA DE REAÇÕES
Ventos F.E.M. 1.001 / 1.005—EN 14439)

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REACTION FORCES TABLE
Winds F.E.M. 1.001 / 1.005—EN 14439)

With Cabin

D - Base dimension (m):	
A1S - A5S	2,8x2,8
A1 - A5	3,8x3,8
B1S	3,8x3,8
B1	4,5x4,5
B2	4,5x4,5
C1S	4,5x4,5
C1	6x6
D1	6x6
D1L	8x8
D2	10x10



H (m)	Win Speed		D	Z	Rv			Mv	P	Rh	Mt
				(kN)	A (kN)	B (kN)	C (kN)	(kN/m)	(kN)	(kN)	(kN/m)
27	In Service	72km/h	B1	600	482	261	40	1407	426	13	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	600	222	252	280	-184	406	57	-
		C25	B1	600	216	252	286	-222	406	54	-
		C50	B1	600	229	252	273	-140	406	59	-
		D25	B1	600	251	252	251	0	406	69	-
		D50	B1	600	270	252	232	122	406	77	-
		E25	B1	600	300	252	201	316	406	91	-
E50	B1	600	322	252	179	457	406	100	-		
27	In Service	72km/h	B1	700	515	288	60	1447	433	14	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	700	276	279	279	-9	413	62	-
		C25	B1	700	274	279	282	-27	413	61	-
		C50	B1	700	292	279	263	92	413	68	-
		D25	B1	700	319	279	236	262	413	79	-
		D50	B1	700	342	279	213	409	413	88	-
		E25	B1	700	379	279	176	644	413	102	-
E50	B1	700	406	279	149	816	413	113	-		
30	In Service	72km/h	B1	700	524	290	55	1490	441	15	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	700	309	281	251	183	421	68	-
		C25	B1	700	309	281	251	183	421	68	-
		C50	B1	700	332	281	227	332	421	76	-
		D25	B1	700	364	281	196	534	421	87	-
		D50	B1	700	395	281	164	736	421	99	-
		E25	B1	700	435	281	123	992	421	113	-
E50	B1	700	471	281	87	1222	421	126	-		
33	In Service	72km/h	B1	700	533	292	50	1537	448	17	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	700	343	283	220	391	428	73	-
		C25	B1	700	354	283	209	461	428	77	-
		C50	B1	700	376	283	187	602	428	84	-
		D25	B1	700	413	283	150	838	428	96	-
		D50	B1	700	455	283	108	1104	428	110	-
		E25	B1	800	523	308	90	1376	428	124	-
E50	B1	900	594	333	68	1673	428	140	-		
36	In Service	72km/h	B1	700	543	294	44	1588	456	18	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	700	380	285	187	616	436	79	-
		C25	B1	700	399	285	168	736	436	85	-
		C50	B1	700	430	285	137	930	436	94	-
		D25	B1	700	473	285	94	1207	436	107	-
		D50	B1	800	541	310	76	1482	436	121	-
		E25	B1	1000	646	360	70	1831	436	137	-
E50	-	-	-	-	-	-	-	-	-		
39	In Service	72km/h	B1	800	579	321	62	1643	464	19	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	800	455	312	176	857	444	85	-
		C25	B1	800	468	312	154	999	444	91	-
		C50	B1	800	503	312	119	1222	444	101	-
		D25	B1	800	559	312	62	1582	444	117	-
		D50	B1	1000	665	362	56	1936	444	133	-
		E25	-	-	-	-	-	-	-	-	-
E50	-	-	-	-	-	-	-	-	-		
42	In Service	72km/h	B1	800	590	323	55	1702	472	21	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	800	488	314	137	1114	452	90	-
		C25	B1	800	521	314	104	1325	452	99	-
		C50	B1	800	560	314	65	1578	452	110	-
		D25	B1	1000	675	364	49	1991	452	127	-
		D50	-	-	-	-	-	-	-	-	-
		E25	-	-	-	-	-	-	-	-	-
E50	-	-	-	-	-	-	-	-	-		
45	In Service	72km/h	B1	900	627	350	72	1764	480	22	200
	Out Service F.E.M. 1.005 (EN 14439)	150km/h	B1	900	558	341	121	1388	460	96	-
		C25	B1	900	596	341	84	1629	460	105	-
		C50	B1	1000	665	366	64	1914	460	116	-
		D25	-	-	-	-	-	-	-	-	-
		D50	-	-	-	-	-	-	-	-	-
48	In Service	72km/h	B1	1000	664	376	89	1830	488	23	200
	Out Service F.E.M. 1.005	150km/h	B1	1000	630	368	103	1679	468	101	-
		C25	B1	1000	682	368	51	2010	468	114	-
		C50	-	-	-	-	-	-	-	-	-
51	In Service	72km/h	-	-	-	-	-	-	-	-	-
	Out Service	150km/h	-	-	-	-	-	-	-	-	-

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2. MONTAGEM

2.3. MONTAGEM DO CABEÇOTE E CONTRALANÇA

2.3.1. Com a auto grua elevar o cabeçote pelos 4 pontos de elevação fig. 19, fixando-o no topo da torre nos 4 apoios usando as cavi-lhas nº 263 fig. 22

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2. MONTAGE

2.3. MONTAGE DE LA CONTRE-FLÈCHE/TÊTE

2.3.1. Using the auto-crane lift the construction up to the 4 elevation points in fig. 19 and fix it to the 4 supports on the top of the tower using bolts nº 263 fig. 19.

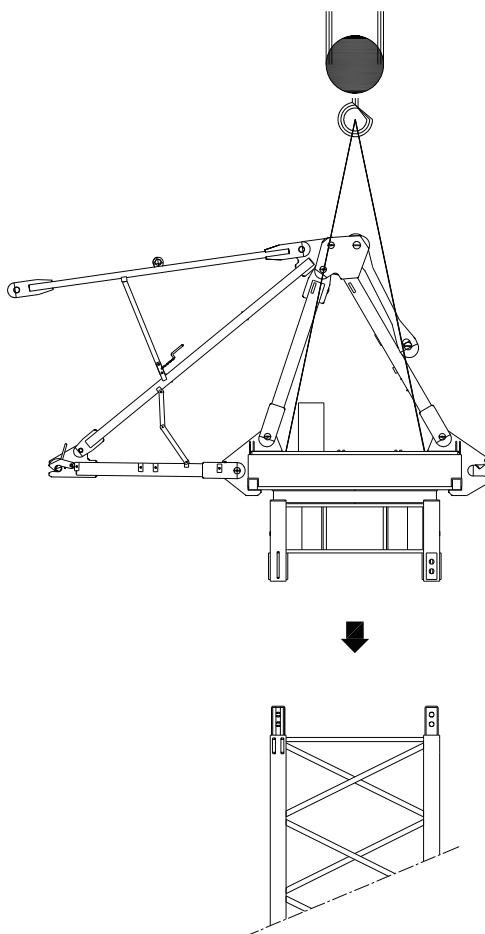


Fig.22

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2. MONTAGEM

2.3.2. Com a contralança no chão, (fig. 20A) levantar separadamente os tirantes A de modo a poder rodar 90° os suportes de apoio B, fixar estes apoios com a cavilha própria. Apoiar os tirantes nestes suportes. Colocar o estrado de aperto dos contrapesos na posição mais recuada.

Com a auto grua elevar a contralança, apoiá-la nas cavilhas nº 270 e fazer a fixação com o dispositivo de aperto (fig. 20B). Incliná-la ligeiramente para poder ligar os tirantes com as cavilhas nº 142

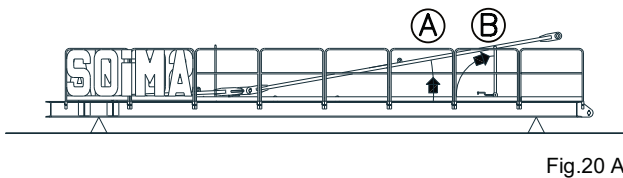


Fig.20 A

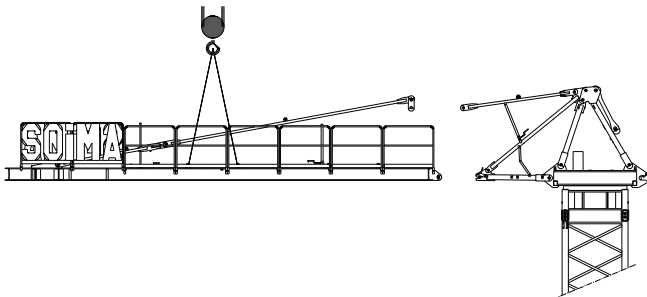


Fig.20 B

2.3.3. Colocar 2 contrapesos de 2000kg na contralança.

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2. ASSEMBLY

2.3.2. With the counter jib on the ground, (fig 20A) separately lift the ties A so that the supports B can be rotated by 90° and fix these supports with the appropriate bolts. Support the ties in these acts. Place the platform for tightening the counterweights as far away as possible.

Using the auto-crane lift the counter jib and attach it to bolts nº 270 and tighten into place with the appropriate device. Slightly incline the counter jib so the ties can be connected with bolts nº 142

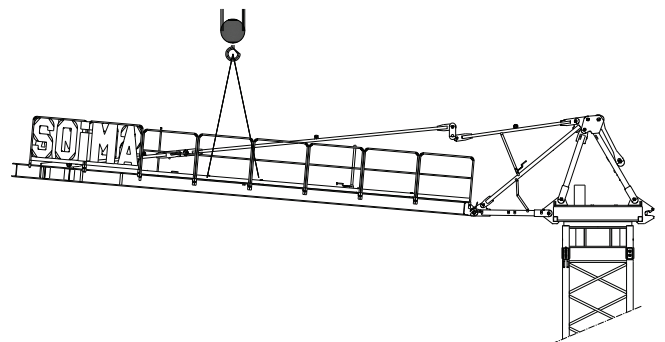


Fig.21

2.3.3. Place 2 2000kg counterweights on the counter jib.

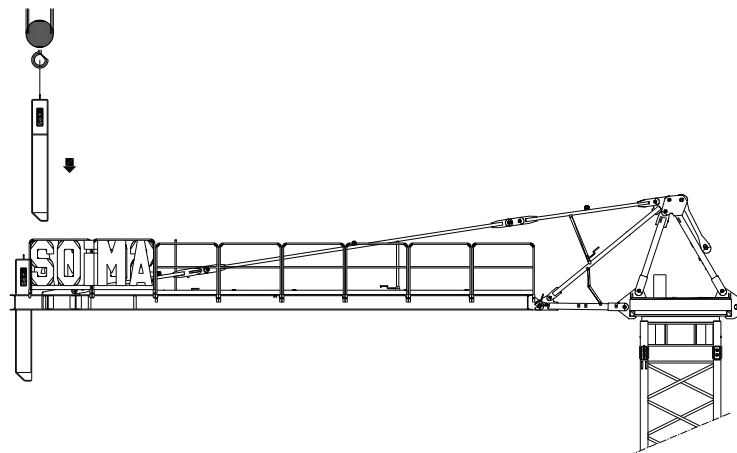
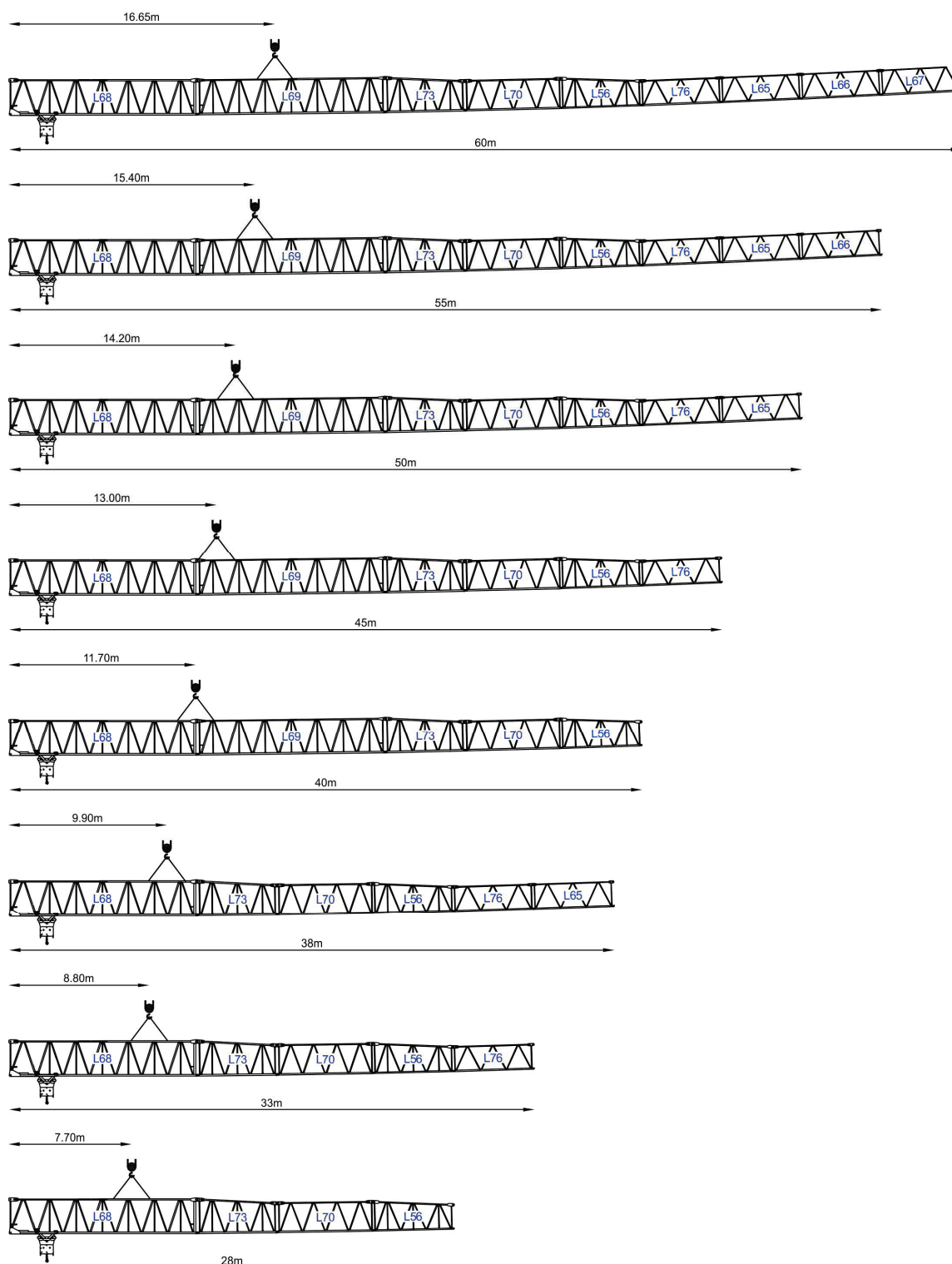


Fig.22

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2. MONTAGEM

**Centro de gravidade da Lança
(versões standard)**



EN

2. ASSEMBLY

**Center of gravity of the Jib
(standard versions)**

